



## PATENT ABSTRACTS OF JAPAN

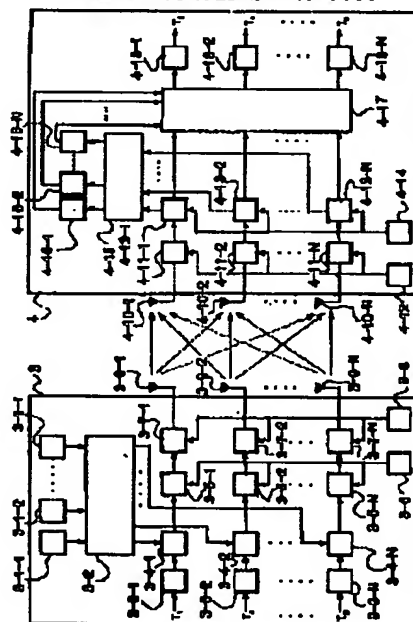
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KUROSAKI SATOSHI****(54) OFDM SIGNAL TRANSMISSION APPARATUS  
AND OFDM SIGNAL RECEPTION APPARATUS****(57) Abstract:**

**PROBLEM TO BE SOLVED:** To improve frequency utilization efficiency by composing an MIMO channel by a plurality of transmission/reception antennas for an OFDM signal transmission apparatus that is used in wideband mobile communication or the like.

**SOLUTION:** A transmission subcarrier pilot matrix generator, and transmission pilot signal configuration equipment are arranged as a pilot signal generator in the OFDM signal transmission apparatus. The transmission subcarrier pilot matrix generator generates a matrix other than a single matrix where a determinant does not become zero and a matrix of the complex multiples of the single matrix with a transmission pilot signal  $p^{l_{mn}}$  at the  $m$ -th symbol that is transmitted by the  $n$ -th antenna in the  $i$ -th subcarrier as constituents in the  $m$  column  $n$  row. The transmission pilot signal configuration equipment inputs a constituent at  $m$  column  $n$  row into a multiplexing circuit from all  $P^l$  as transmission pilot signal constituents ( $p^{1mn}, p^{2mn}, \dots, p^{l_{mn}}$ ) at the  $m$ -th symbol in the  $n$ -th antenna.

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図1に示す実施形態の構成図



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